Palmcorder® Camcorder

VHSC

Panasonic®

Getting Started

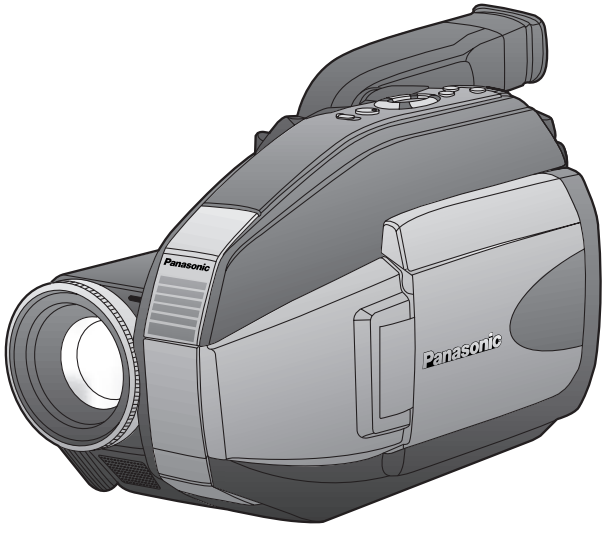
Basic Operation

Special Features

For Your Information

Camcorder
Operating Instructions

Model No. **PV-L552**



Please read these instructions carefully before attempting to operate this product.
Please save this manual.

For assistance, please call : 1-800-211-PANA(7262) or send e-mail to : consumerproducts@panasonic.com

LSQT0557A

Things You Should Know

Thank you for choosing Panasonic!

You have purchased one of the most sophisticated and reliable products on the market today. Used properly, it will bring you years of enjoyment. Please take time to fill in the information to the right.
The serial number is on the tag located on the rear side of your Camcorder. Be sure to **retain this manual** as your convenient Camcorder information source.

Date of Purchase	
Dealer Purchased From	
Dealer Address	
Dealer Phone No.	
Model No.	
Serial No.	

Unpack your Camcorder

These accessories are provided in order to set up or use your Camcorder.

1 pc. AC Adaptor (PV-A19/PV-A20) with DC Power Cable (page 10)

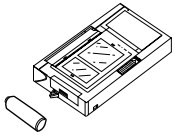
1 pc. Audio/Video Cable (LSJA0390) (pages 21, 22)

1 pc. Battery Pack (PV-BP18) (pages 9, 10)

1 pc. Shoulder Strap (LSFC0012) (page 12)

1 pc. CR2025 Clock Battery (VSBW0004) (installed in Camcorder) (page 34)

1 pc. VHS PlayPak (PV-P1/VYMW0009) and one “AA” battery (page 21)



1 pc. Lens Cap (LSYK0817) with Lens Cap Strap (LSGQ0049) (page 12)

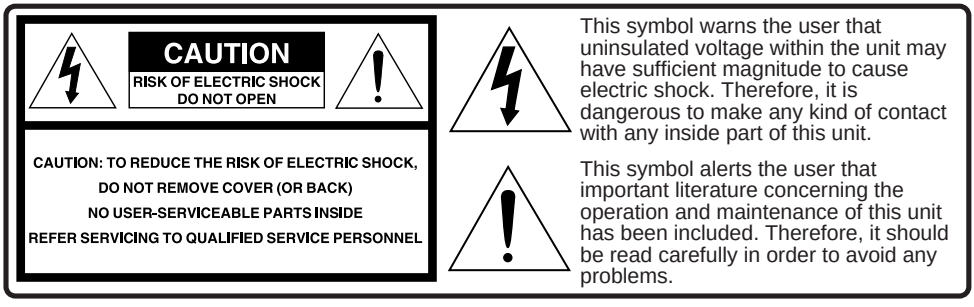
For assistance, please call : 1-800-211-PANA(7262) or send e-mail to : consumerproducts@panasonic.com

Safety Precautions

WARNING : TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.

Your Compact VHS Camcorder is designed to record and play back in Standard Play (SP) and Super Long Play (SLP) modes. You can also play a Compact VHS Camcorder recording on your VHS VCR using the supplied VHS PlayPak.

This Camcorder is equipped with the **HQ** System to provide excellent video pictures, and is compatible with standard VHS equipment.
It is recommended that only cassette tapes that have been tested and inspected for use in VCR machines with the VHSC and/or VHS mark be used.


CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK)
NO USER-SERVICEABLE PARTS INSIDE
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL
This symbol warns the user that uninsulated voltage within the unit may have sufficient magnitude to cause electric shock. Therefore, it is dangerous to make any kind of contact with any inside part of this unit.
This symbol alerts the user that important literature concerning the operation and maintenance of this unit has been included. Therefore, it should be read carefully in order to avoid any problems.

The above markings are located on the appliance's bottom cover.

FCC Warning: Any unauthorized changes or modifications to this equipment would void the user's authority to operate.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with Part 15 and part 18 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when operated in a residential environment.
If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, use the equipment in another location and/or utilize an electrical outlet different from that used by the receiver.
If necessary, consult the dealer or an experienced radio/TV technician for help. You may find the booklet, 'Something About Interference' available from FCC local regional offices helpful.

This product may cause interference to radio equipment and should not be installed near maritime safety communications equipment or other critical navigation or communication equipment operating between 0.45-30 MHz.

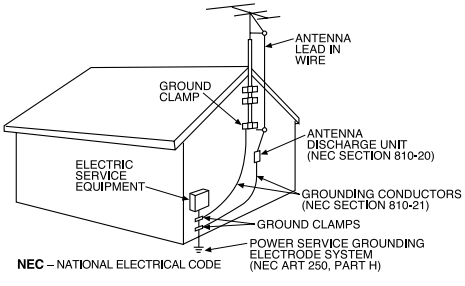
Important Safeguards

1. **Read Instructions** – All the safety and operating instructions should be read before the unit is operated.
2. **Retain Instructions** – The safety and operating instructions should be retained for future reference.
3. **Heed Warnings** – All warnings on the unit and in the operating instructions should be adhered to.
4. **Follow Instructions** – All operating and maintenance instructions should be followed.
5. **Cleaning** – Unplug this video unit from the wall outlet before cleaning. Do not use liquid or aerosol cleaners. Use a dry cloth for cleaning.
6. **Attachments** – Do not use attachments not recommended by the video product manufacturer as they may be hazardous.
7. **Water and Moisture** – Do not use this video unit near water – for example near a bath tub, wash bowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool, and the like.
8. **Accessories** – Do not place this video unit on an unstable cart, stand, tripod, bracket, or table. The video unit may fall, causing serious injury to a child or adult, and serious damage to the unit. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer, or sold with the video unit. Any mounting of the unit should follow the manufacturer's instructions and should use a mounting accessory recommended by the manufacturer. An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

9. **Ventilation** – Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the video unit and to protect it from overheating. These openings must not be blocked or covered. Never place the video unit on a bed, sofa, rug, or other similar surface, or near or over a radiator or heat register. This video unit should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.
10. **Power Sources** – This video unit should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your appliance dealer or local power company. For video units intended to be operated from battery power, or other sources, refer to the operating instructions.
11. **Grounding or Polarization** – This video unit may be equipped with either a polarized 2-wire AC (Alternating Current) line plug (a plug having one blade wider than the other) or 3-wire grounding type plug, a plug having a third (grounding) pin.

    The 2-wire polarized plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug still fails to fit, contact your electrician to replace your obsolete outlet.
    Do not defeat the safety purpose of the polarized plug.

    The 3-wire grounding type plug will fit into a grounding type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding type plug.
12. **Power-Cord Protection** – Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them. Paying particular attention to cords of plugs, convenience receptacles, and the point where they exit from the unit.
13. **Outdoor Antenna Grounding** – If an outside antenna or cable system is connected to the video unit, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges. Part 1 of the Canadian Electrical Code, in USA Section 810 of the National Electrical Code, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.


ANTENNA LEAD IN WIRE
GROUND CLAMP
ANTENNA DISCHARGE UNIT (NEC SECTION 810-20)
ELECTRIC SERVICE EQUIPMENT
GROUNDING CONDUCTORS (NEC SECTION 810-21)
GROUND CLAMPS
POWER SERVICE GROUNDING ELECTRODE SYSTEM (NEC ART 250, PART H)
NEC – NATIONAL ELECTRICAL CODE

14. **Lightning** – For added protection of this video unit receiver during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the video unit due to lightning and power-line surges.

15. **Power Lines** – An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.
16. **Overloading** – Do not overload wall outlets and extension cords as this can result in a risk of fire or electric shock.
17. **Objects and Liquids** – Never push objects of any kind into this video unit through openings as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind onto the video unit.
18. **Servicing** – Do not attempt to service this video unit yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
19. **Damage Requiring Service** – Unplug this video unit from the wall outlet and refer servicing to qualified service personnel under the following conditions:
    a. When the power-supply cord or plug is damaged.
    b. If any liquid has been spilled into, or objects have fallen onto, the video unit.
    c. If the video unit has been exposed to rain or water.
    d. If the video unit does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions, as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the video unit to its normal operation.
    e. If the video unit has been dropped or the cabinet has been damaged.
    f. When the video unit exhibits a distinct change in performance – this indicates a need for service.
20. **Replacement Parts** – When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock or other hazards.
21. **Safety Check** – Upon completion of any service or repairs to this video unit, ask the service technician to perform safety checks to determine that the video unit is in safe operating order.

Precautions

USE & LOCATION

- **TO AVOID SHOCK HAZARD ...** Your Camcorder and power supply should not be exposed to rain or moisture. Do not connect the power supply or operate your Camcorder if it gets wet. Your Camcorder has been designed for outdoor use, however it is not designed to sustain direct exposure to water, rain, sleet, snow, sand, dust, or a direct splashing from a pool or even a cup of coffee. This action could permanently damage the internal parts of your Camcorder. Do not attempt to disassemble this unit. There are no user serviceable parts inside. Unplug your Camcorder from the power supply before cleaning.
- **DO NOT AIM YOUR CAMCORDER AT THE SUN OR OTHER BRIGHT OBJECTS.**
- **DO NOT LEAVE THE CAMCORDER WITH THE EVF AIMED DIRECTLY AT THE SUN AS THIS MAY CAUSE DAMAGE TO THE INTERNAL PARTS OF THE EVF.**
- **DO NOT EXPOSE YOUR CAMCORDER TO EXTENDED HIGH TEMPERATURE ...** Such as, in direct sunlight, inside a closed car, next to a heater, etc... This action could permanently damage the internal parts of your Camcorder.
- **AVOID SUDDEN CHANGES IN TEMPERATURE ...** If the unit is suddenly moved from a cold place to a warm place, moisture may form on the tape and inside the unit.
- **DO NOT LEAVE YOUR CAMCORDER OR THE POWER SUPPLY TURNED ON WHEN NOT IN USE.**
- **STORAGE OF YOUR CAMCORDER ...** Store and handle your Camcorder in a manner that will not subject it to unnecessary movement (avoid shaking and striking). Your Camcorder contains a sensitive pick-up device which could be damaged by improper handling or storage.

CARE

- **TO CLEAN YOUR CAMCORDER ...** Do not use strong or abrasive detergents when cleaning your Camcorder body.
- **TO PROTECT THE LENS ...** Do not touch the surface of the lens with your hand. Use a commercial camcorder lens solution and lens paper when cleaning the lens. Improper cleaning can scratch the lens coating.
- **TO PROTECT THE FINISH OF YOUR CAMCORDER ...** Before handling your Camcorder, make sure your hands and face are free from any chemical products, such as suntan lotion, as it may damage the finish.

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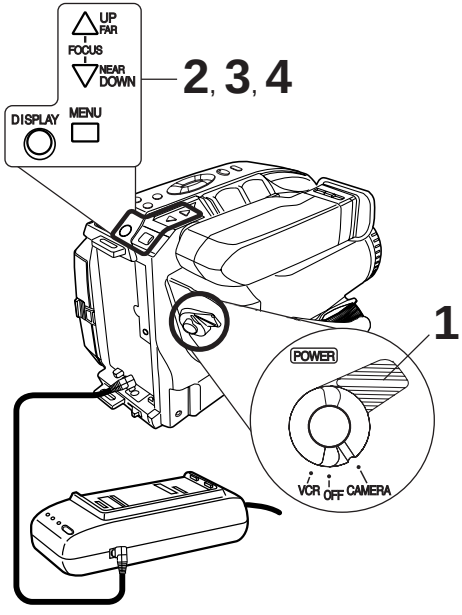
Self Demo mode is on when the screen below appears. To turn it off, follow steps 1-4 below.

EVF or LCD Monitor

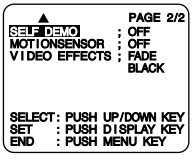


Before you begin...

- **Connect Camcorder to power source.**

1 **Set POWER to CAMERA.**

2 **Press MENU** for MENU mode.
Press UP or DOWN to select **SELF DEMO**.



3 **Press DISPLAY** to select OFF.

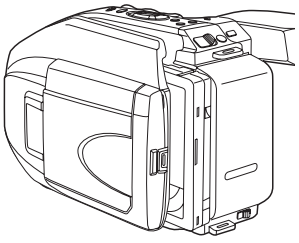
4 **Press MENU** to exit.

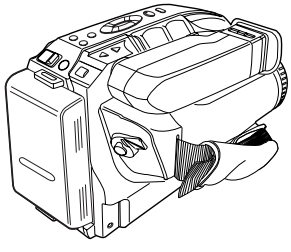
Note:

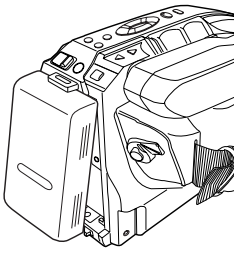
- **Self Demo stops automatically if battery is attached** (page 9) **and cassette tape is inserted** (page 11).
- Inserting a tape alone (or attaching a partially charged battery) only temporarily stops Self Demo.
- Self Demo stops for 30 seconds when the Light is pressed.

To turn Self Demo back on:

- Set to SELF DEMO : ON in MENU screen.







To use battery refresh, insert Battery on AC Adaptor (see steps 1~2 above), then press BATTERY REFRESH.

The REFRESH Lamp lights, then goes out when discharge is complete. Battery charging will then start automatically.

If BATTERY REFRESH is pressed by mistake, remove Battery from AC Adaptor and reinsert it for normal charging.

Note:

- Charging takes about 7 and 1/2 hours when Battery Refresh is used.
- Battery will not operate in extremely high temperatures.

Supplying Power

Battery Care

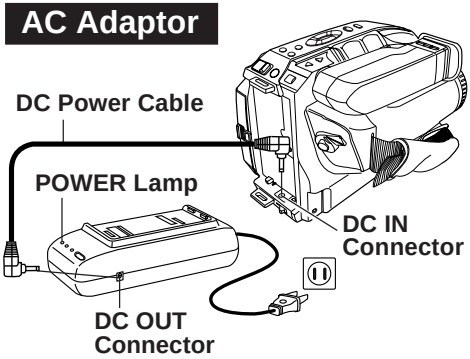
Caution:
- Charge only with specified charger.
- Battery can be charged within a temperature range of 10 °C (50 °F) and 35 °C (95 °F).
- Battery is normally warm after charging or just after use.
- Do not use an insufficiently charged or worn-out Battery.

Safety precautions:
- Do not get Battery near, or dispose of in, fire.
- Do not directly connect (short circuit) the positive (+) and negative (–) terminals.
- Never attempt to disassemble or reassemble Battery.

To avoid Battery damage:
- Do not drop or jar Battery.
- Use Battery with specified units only.
- If Battery is used in extremely high temperatures, a safety device will automatically prevent operation.

To prolong Battery life:
- While not in use, remove Battery from the Camcorder and AC Adaptor, and store in a cool, dark, dry place.
- Keep Battery terminals clean.

AC Adaptor



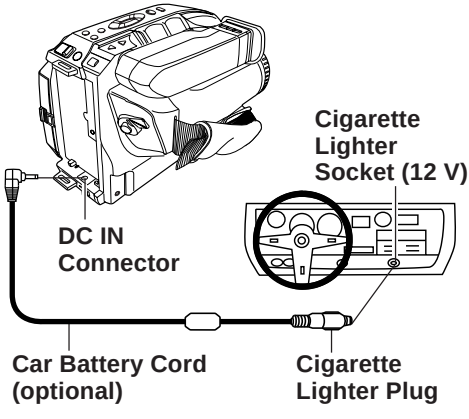
1 **Connect AC Adaptor DC OUT to Camcorder DC IN** with supplied DC Power Cable.

2 **Plug in AC Adaptor.**
POWER Lamp lights.

Note:
- While the DC Power Cable (supplied) is connected to the AC Adaptor, the Battery cannot be charged.
- When not in use, unplug AC Adaptor from AC outlet. (Adaptor uses 1.2 W of electricity while plugged in.)

CAUTION:
This unit will operate on 110/120/220/240 V AC 50/60 Hz. An AC plug adaptor may be required for voltages other than 120 V AC. Please contact either a local or foreign electrical parts distributor for assistance in selecting an alternate AC plug. We recommend using the accessory power plug adaptor (VJSS0070) in an area which has special AC outlets.

Car Battery Cord (Optional)

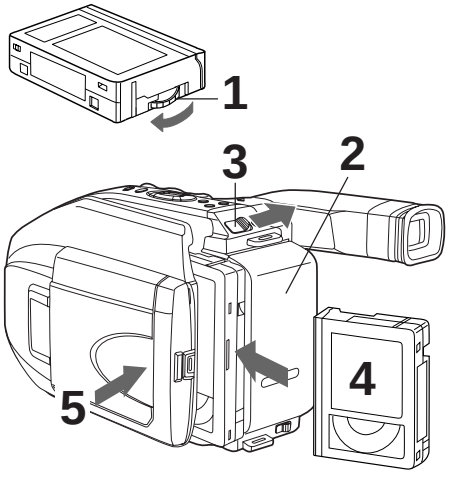


1 **Connect PV-C16 Car Battery Cord (optional) to Camcorder DC IN.**

2 **Ⓐ Start engine first.**
Ⓑ Plug Car Battery Cord into Cigarette lighter socket.
- If Car Battery cord fuse needs replacing, use exact current rating (in amps).

Note:
- This cord only works in vehicles equipped with **DC 12 V (negative ground)** battery. Check with your car/truck dealer. Use only specified car battery cord.
- To avoid blowing the car battery cord fuse, do step 2 in the proper order.
- Running vehicles must be well ventilated.
- When not in use, disconnect cigarette lighter plug.
- For personal safety the driver of the vehicle should not attempt to operate the camcorder while driving.

Cassette Insertion/Removal



1 **Turn Tape Wheel** in direction of arrow until there is no slack.

2 **Attach Battery** (page 9).

3 **Slide TAPE EJECT** to open door.

4 **Insert cassette as shown.**

5 **Press here** to close door.

- **To remove the cassette, slide the TAPE EJECT switch.**

Record/Playback Time

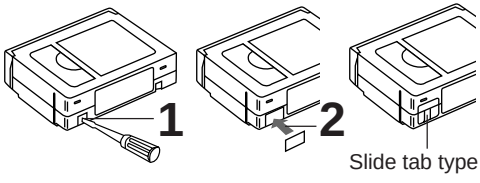
Use tapes with the VHS C mark in this unit.

Tape Speed Selector Position	Cassette type		
	TC-20	TC-30	TC-40
SP (Standard Play)	20 minutes	30 minutes	40 minutes
SLP (Super Long Play)	1 hour	1 hour 30 minutes	2 hours

- SLP playback may contain more picture noise.

Erase Protection Tab

Protects tapes from being accidentally erased.



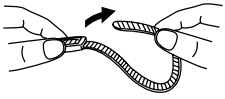
1 **To prevent accidental erasing,**
break off tab with screwdriver.
(Or, slide tab open.)

2 **To record again,**
cover hole with adhesive tape.
(Or, slide tab closed.)

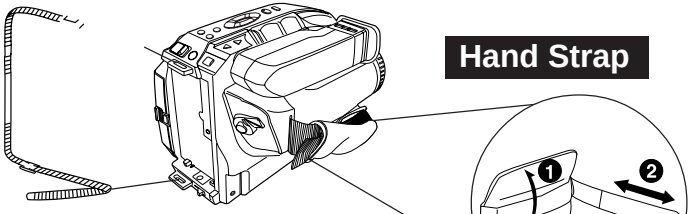
Attaching Shoulder Strap

Remove Battery Pack before completing the following steps:

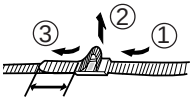
1 **Undo strap ends** from buckles.



2 **Thread strap ends through Strap Rings on Camcorder.**

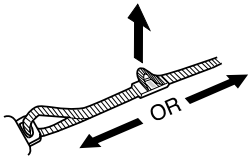


3 **Re-insert the strap ends into buckles.**



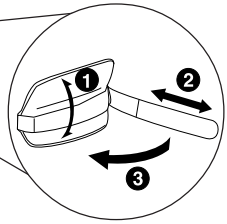
min. 25.4 mm (1 inch)

Adjust the Length of the Shoulder Strap



Pull a loop of strap from buckle, then pull strap tight to shorten or lengthen.

Hand Strap



Adjust Hand Strap length to fit your hand as shown.

Lens Cap

Attaching the Lens Cap Strap:
Thread the Strap through the Lens Cap attachment ring as illustrated at left.

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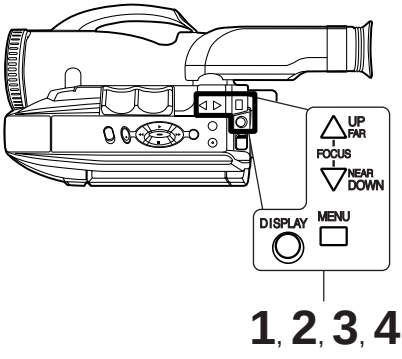


Before you begin...

- **Connect Camcorder to power source.**
- **Set POWER to CAMERA or VCR.**

1 **Press MENU** for MENU mode.
The CAMERA or VCR MENU screen (see below left) appears when Menu mode is entered.

2 **Press UP or DOWN to highlight** the desired menu item.

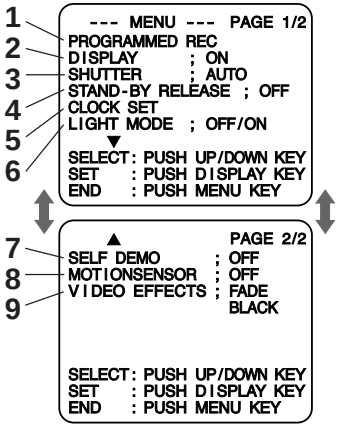
3 **Press DISPLAY** to set selection.

4 **Press MENU** to exit.

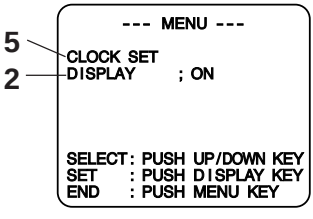
Note:

- The Menu mode is canceled if UP/DOWN, DISPLAY, or MENU are not pressed within 5 minutes when Self Demo mode is off.
- The Menu mode is canceled if UP/DOWN, DISPLAY, or MENU are not pressed within 30 seconds when Self Demo mode is on.

MENU Mode (CAMERA) Screen



MENU Mode (VCR) Screen



1 **PROGRAMMED REC** (page 19).
Camcorder starts and stops recording at a preset time.

2 **DISPLAY** (page 31).
ON : On-screen Display (OSD) screens are displayed.

3 **SHUTTER** (page 25).
Select desired shutter speed.

4 **STAND-BY RELEASE** (page 18).
ON : Enables quick resumption of recording from Stand-by mode.

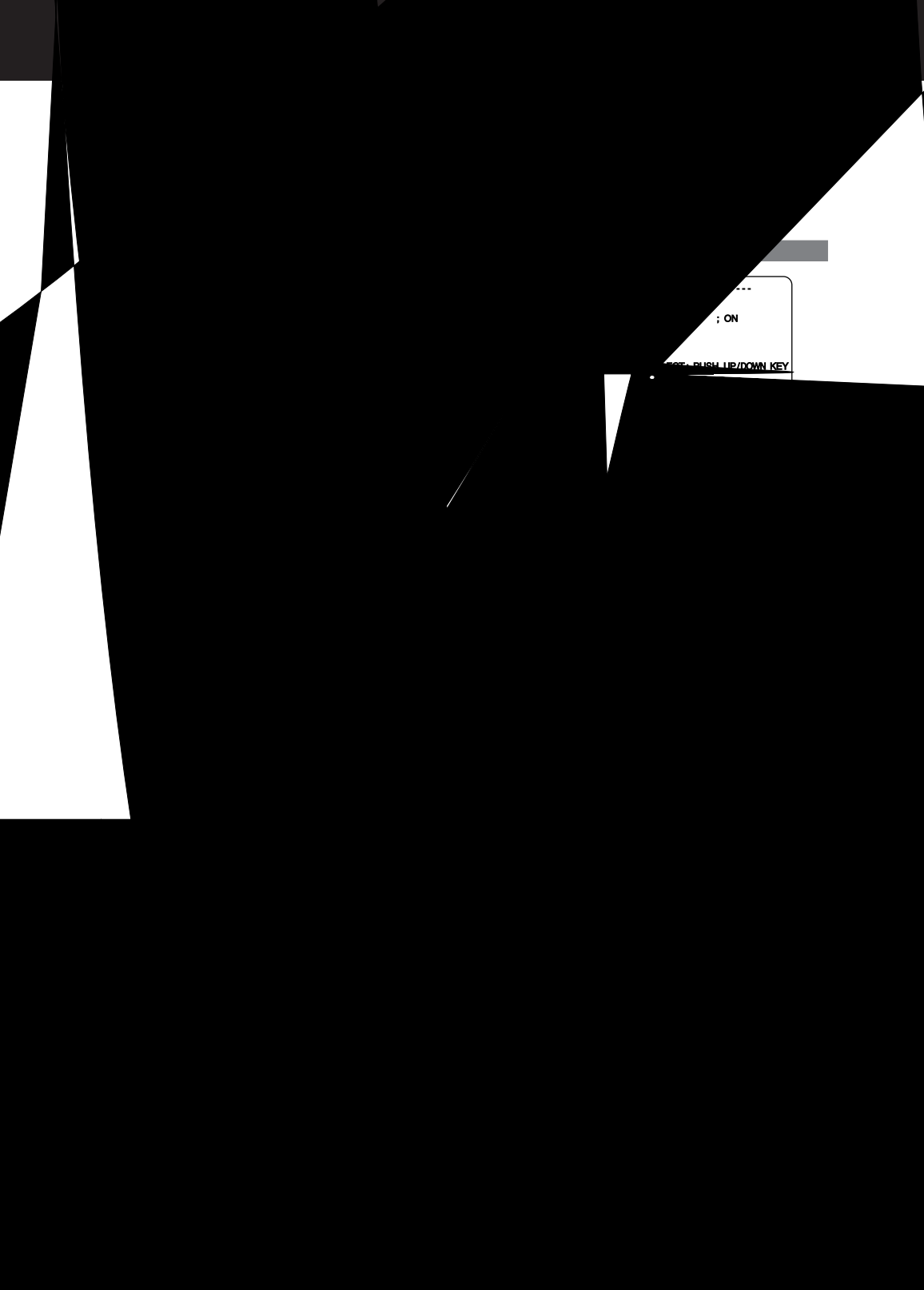
5 **CLOCK SET** (pages 14, 15).
Select to set clock.

6 **LIGHT MODE** (page 16).
ON/OFF : Light can be set ON or OFF.
ON/OFF/AUTO : Light can be set ON, OFF, or AUTO.

7 **SELF DEMO** (page 7).
ON : SELF DEMO screen is displayed.

8 **MOTIONSENSOR** (page 30).
ON : Enables MotionSensor recording.

9 **VIDEO EFFECTS** (pages 26~27).
AUTO FADE : BLACK or WHITE
DIGITAL FADE : TYPE → 7 types
COLOR → 8 colors

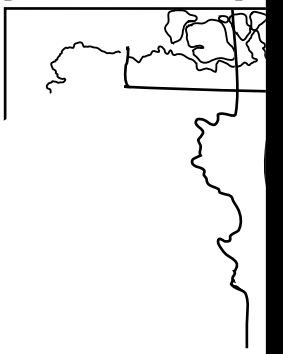


; ON
PUSH UP/DOWN KEY

3a

The Camcorder is preset t

[Time Zone chart]



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o

ATLANTIC PACIFIC
EASTERN ALASKA
CENTRAL HAWAII
MOUNTAIN SAMOA

SELECT: PUSH UP/DOWN KEY
SET : PUSH DISPLAY KEY

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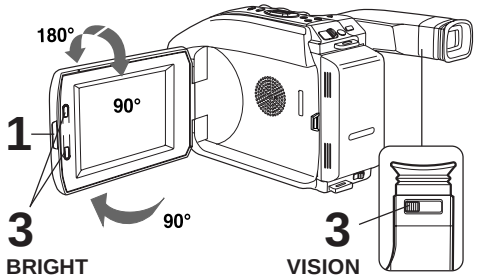
/DOWN KEY
DISPLAY KEY

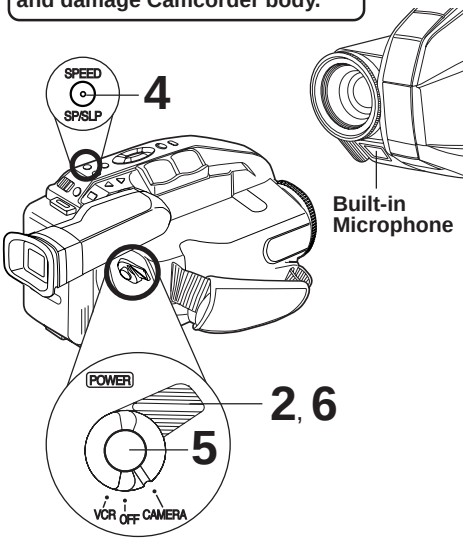
SELECT: P
SET : P

Recording via EVF or LCD Monitor

View recording scene on EVF (Electronic Viewer Finder) or LCD (Liquid Crystal Display) monitor.



CAUTION :
Rotating partially open LCD monitor may block cassette door and damage Camcorder body.



WARNING :

- **Do not leave the camcorder with the EVF aimed directly at the sun. This may cause damage to the internal parts of the EVF.**

Note:

- When Camcorder is aimed at excessively bright objects, or bright lights, a vertical bar may appear in the picture. This is normal for the CCD pick-up. Try to avoid this when possible.
- Using LCD monitor reduces battery operation time. Return LCD monitor to locked position when not in use.

Before you begin...

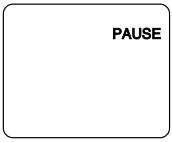
- **Connect Camcorder to power source.**
- **Insert cassette with record tab (page 11).**

1 **Press LCD-OPEN** to unlock the LCD monitor. **Swing LCD monitor fully open and adjust viewing angle**.

- If you want to record using EVF, close and lock LCD monitor.

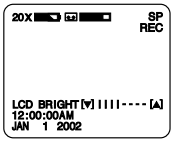
2 **Set POWER to CAMERA.**

- Be sure POWER is fully turned to CAMERA position.
- EVF or LCD monitor turns on/off by the POWER switch.
- EVF shuts off when LCD monitor is opened and turns back on when LCD is closed.
- Both EVF and LCD monitor turn on when LCD is at 180° (see above left). This allows both you and the subject to view the recording.



EVF or LCD Monitor
(Record/Pause mode)

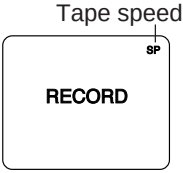
3 **LCD : Press BRIGHT ADJUSTMENT** to adjust LCD monitor brightness level.



EVF : Look into EVF and adjust VISION ADJUSTMENT to your eyesight.

4 **Hold down TAPE SPEED** for about 1 second to change tape speed to SP/SLP (page 11).

5 **Press RECORD/PAUSE** to start or pause recording.



EVF or LCD Monitor
(Record mode)

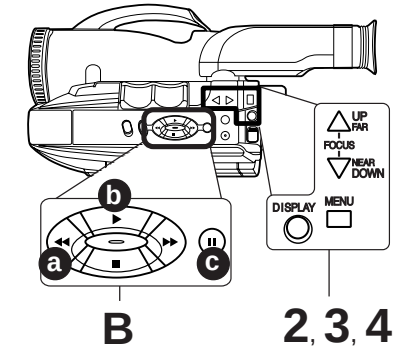
6 **Set POWER to OFF** when finished.

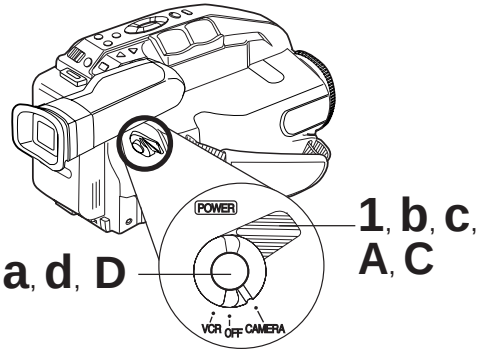
- **To remove the cassette,** slide the TAPE EJECT switch (page 11).

Camera Recording

Before you begin...

- **Connect Camcorder to power source.**
- **Insert cassette with record tab (page 11).**



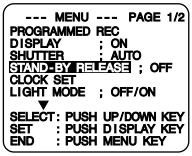


Stand-by Quick Release

If left in RECORD/PAUSE mode for 5 minutes, Camcorder switches to Stand-by mode to conserve battery. When set to ON, Stand-by Quick Release lets you resume recording by pressing RECORD/PAUSE two times. Stand-by Quick Release is set to OFF at the factory.

1 **Set POWER to CAMERA.**

2 **Press MENU** for MENU mode.
Press UP or DOWN to select **STAND-BY RELEASE**.



3 **Press DISPLAY** to select ON/OFF.

ON : From Stand-by mode, press RECORD/PAUSE two times to resume recording.

OFF : From Stand-by mode, set POWER to OFF, then to CAMERA. Press RECORD/PAUSE to record.

4 **Press MENU** to exit.

Manual Easy Editing

For proper continuity when taping from Stop mode or after attaching a new Battery.

A **Set POWER to VCR.**

B ⓐ **Press REWIND/SEARCH** to rewind a few seconds of tape.

ⓑ **Press PLAY** to review recording.

ⓒ **Press STILL** where you want to continue recording.

C **Set POWER to CAMERA.**

D **Press RECORD/PAUSE** to resume recording.

Easy Edit Stand-by

For a smooth transition between scenes if recording is stopped, and then started within 24 hours.

a **Press RECORD/PAUSE to stop recording.**

b **Set POWER to OFF** and leave cassette in Camcorder.

c To resume recording, **set POWER to CAMERA.**

d **Press RECORD/PAUSE** to resume recording.

Note:

- Use Manual Easy Edit (left) if more than 24 hours before recording is resumed.

For assistance, please call : 1-800-211-PANA(7262) or send e-mail to : consumerproducts@panasonic.com

DISPLAY

Connect Camcorder to a TV to view playback or recordings in progress.

Connections

Before you begin...

- **Connect Camcorder to power source.**
- **Make all TV-Camcorder connections.**

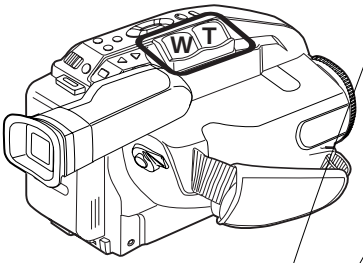
1 **Set POWER to:**
VCR → view playback.
CAMERA → view picture as it is recorded.

2 **Turn TV ON and set to LINE INPUT.**
See TV owner's manual.

3 **Begin playback or recording.**

Four-Speed Power Zoom

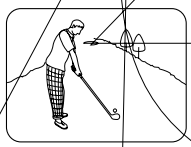
Zoom in (close up) and out (wide angle) in one of four speeds ranging from slow (16 seconds) to fast (2 seconds).



Before you begin...

- **Connect Camcorder to power source.**
- **Set POWER to CAMERA.**

Zoom In ("T")



Zoom Out ("W")

- **Zoom slowly:**
  Lightly press "T" (telephoto) or "W" (wide angle) POWER ZOOM button.
- **Zoom quickly:**
  Apply more pressure to the button.

F

Be
- **C** **wer s**
- **Se**

Ca ocus even during zooming.

Aut F" is n EVF or LCD monitor.
Pre e "M CD monitor if necessary.

Us **wher**
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Press M.FOCUS so “MF” (Manual Focus) appears in EVF or LCD monitor.

Hold down “T” (telephoto) on POWER ZOOM to maximum zoom in.

Press UP (FAR) or DOWN (NEAR) until subject is in focus.
Back away from subject if necessary.

Hold down “W” (wide angle) on POWER ZOOM as desired.

- **Refocus as needed** when aiming at new scenes.

High Speed Shutter

Improves Still or Slow Motion playback picture of high speed subjects (e.g. a tennis stroke), when viewed on Camcorder or 3 or 4 head VCR.

Before you begin...

- **Connect Camcorder to power source.**
- **Insert cassette with record tab (page 11).**
- **Set POWER to CAMERA.**

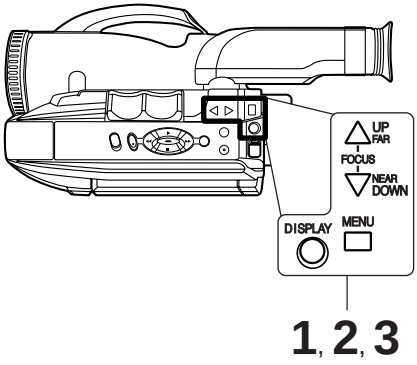
Auto Shutter

In AUTO mode (no indication in EVF or LCD Monitor), shutter speed is auto-adjusted from 1/60 to 1/350 according to subject brightness.

• AUTO mode is selected each time POWER is set to CAMERA.

Manual Selection

The faster the shutter speed, the more light is needed for proper picture and color quality. High Speed Shutter indication flashes if light is inadequate. Provide additional light.



1 **Press MENU** for MENU mode.
Press UP or DOWN to select **SHUTTER**.

2 **Press DISPLAY repeatedly** to select shutter speed.

```
--- MENU ---  PAGE 1/2
PROGRAMMED REC
DISPLAY        : ON
SHUTTER        : AUTO
STAND-BY RELEASE : OFF
CLOCK SET
LIGHT MODE  : OFF/ON
        ▼
SELECT: PUSH UP/DOWN KEY
SET   : PUSH DISPLAY KEY
END   : PUSH MENU KEY
```

AUTO → 1/60 → 1/100 → 1/250 → 1/500 → 1/1000 → 1/2000 → 1/4000 → 1/10000 → AUTO

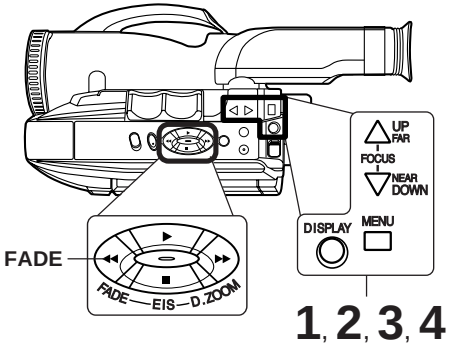
3 **Press MENU** to exit.

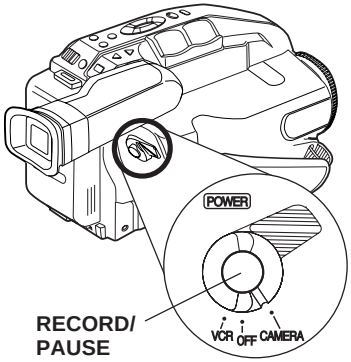
Note:

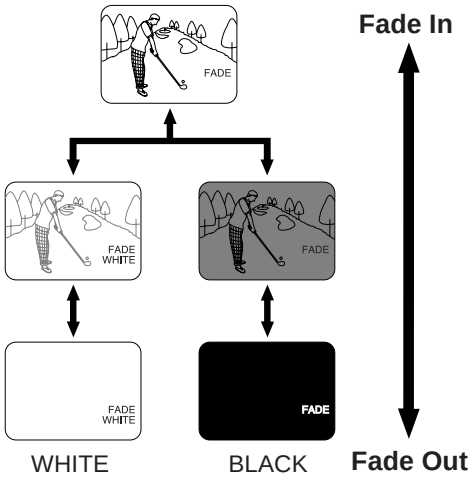
- Shutter speed cannot be set to 1/60 if Digital E.I.S. feature is set to ON.
- Provide additional halogen or tungsten light for use indoors or in poor light. Fluorescent light degrades picture.
- Auto Focus may not function properly if high speed shutter is used in inadequate light.
- Setting reverts to AUTO each time POWER is set to CAMERA.

Auto Fade

An interesting way to open and close scenes.



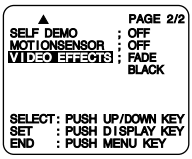




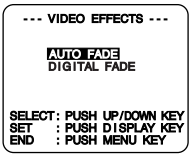
Before you begin...

- **Connect Camcorder to power source.**
- **Set POWER to CAMERA.**

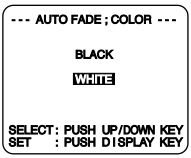
1 **Press MENU** for MENU mode. **Press UP or DOWN** to select **VIDEO EFFECTS**.



2 **Press DISPLAY** for VIDEO EFFECTS menu. **Press UP or DOWN** to select **AUTO FADE**.



3 **Press DISPLAY** for AUTO FADE ; COLOR menu. **Press UP or DOWN** to select BLACK or WHITE.



4 **Press DISPLAY** to confirm entry. **Press MENU** to exit.

Fade In:

In RECORD/PAUSE mode, press FADE so “FADE” flashes in EVF or LCD monitor.

Press RECORD/PAUSE.
Recording starts as picture and sound gradually fade in.

Fade Out:

While recording, press FADE so “FADE” flashes in EVF or LCD monitor.

Press RECORD/PAUSE.
Picture and sound gradually fade out, and recording is paused.

If FADE is pressed accidentally, press again so “FADE” disappears in EVF or LCD monitor.

For assistance, please call : 1-800-211-PANA(7262) or send e-mail to : consumerproducts@panasonic.com

Press DOWN to s
DIGITAL FADE

3 **Press DISP**
Press UP
Press D
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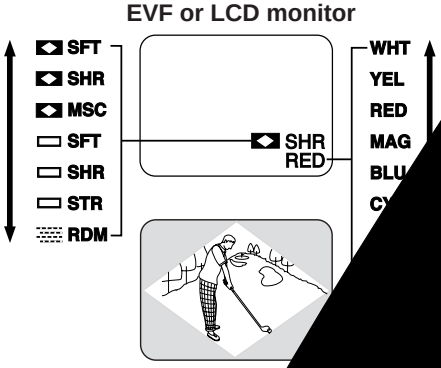

■ For more effects, sto
out at any time (exc
mode) by pressing
Then, press FAD

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Note:
• Audio is not
• To cancel D
and 5. In s

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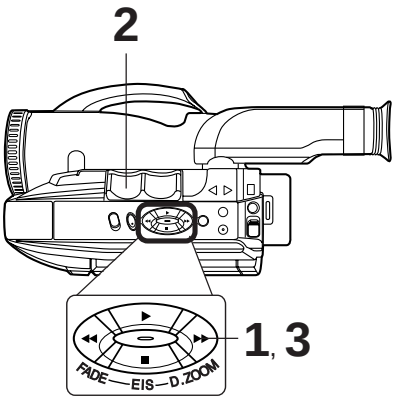
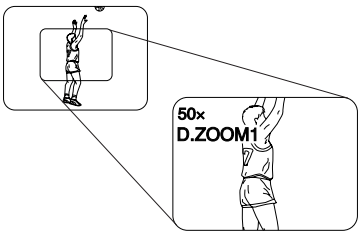
Digital Zoom

Power Zoom magnification is digitally increased.





Before you begin...

- **Connect Camcorder to power source.**
- **Set POWER to CAMERA.**

1 **Press D. ZOOM.**
once →D.ZOOM 1 (150× maximum)
twice →D.ZOOM 2 (780× maximum)
The Higher digital magnification levels may cause picture distortion.

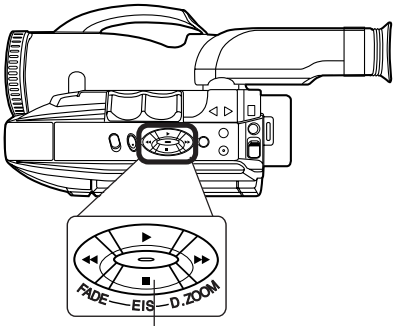
2 **Hold down "T" on POWER ZOOM.**
Digital Zoom starts when normal zoom reaches maximum (26×).
- Zoom level appears in EVF or LCD monitor.
- POWER ZOOM switch controls digital zoom level.
- Normal zoom resumes when level falls to 26×.

3 **Press D. ZOOM** to turn off Digital Zoom so no indication appears.

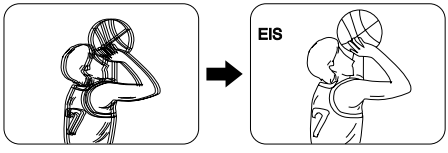
For assistance, please call : 1-800-211-PANA(7262) or send e-mail to : consumerproducts@panasonic.com

Digital Electronic Image Stabilization (E.I.S.)

Helps stabilize picture when recording in unstable situations.



1, **2**



NORMAL **Digital EIS ON**

Before you begin...

- **Connect Camcorder to power source.**
- **Set POWER to CAMERA.**

1 **Press EIS** to display “EIS” in the EVF or LCD monitor.

- Image becomes slightly enlarged and shutter speed auto-adjusts from 1/80 to 1/350 according to brightness.
- Use High Speed Shutter (page 25) if needed. Shutter speed setting remains after EIS is canceled.

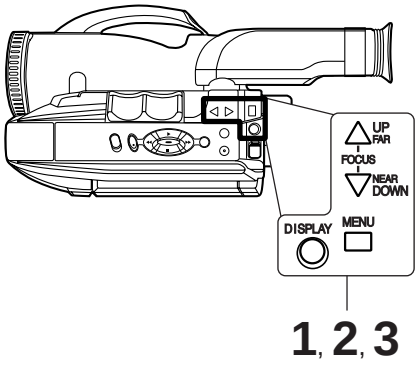
2 **Press EIS again** to cancel when not in use.

E.I.S. may not function during...

- extreme Camcorder movement.
- recording of subjects with distinct horizontal or vertical stripes.
- low light situations (EIS indicator flashes).
- intense fluorescent lighting situations.
- recording of very fast motion.

MotionSensor

Recording starts automatically if motion is detected.



MotionSensor may mistakenly start when:

- background is plain, like a white wall, or has distinct vertical, horizontal, or slanted stripes, like a venetian blind.
- brightness suddenly changes.

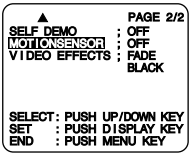
MotionSensor may not start when:

- motion is very slow or fast.
- moving object is very small.
- motion occurs only in 1 corner of viewing area.
- in poor lighting (in this case, MOTIONSENSOR flashes).
- background is plain, like a white wall, or has distinct horizontal or vertical stripes.

Before you begin...

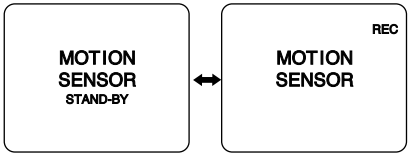
- **Connect Camcorder to power source. Use AC Adaptor for longer recordings.**
- **Insert cassette with record tab (page 11).**
- **Set POWER to CAMERA.**
- **Securely position and aim Camcorder.**

1 **Press MENU** for MENU mode. **Press UP or DOWN** to select MOTIONSENSOR.



2 **Press DISPLAY** to select ON.

3 **Press MENU** for MotionSensor stand-by mode. (If cassette is not inserted, "◆◆" will flash.)



- Recording will start about 3 seconds after motion is detected.
- Date and time are recorded if displayed in EVF or LCD monitor (page 15).
- Recording stops about 30 seconds after motion ceases.

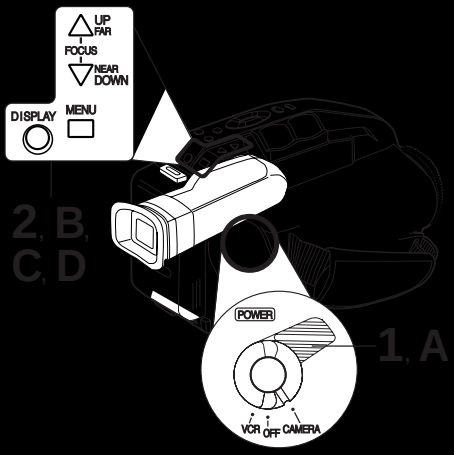
To cancel MotionSensor Mode, **set POWER to OFF.**

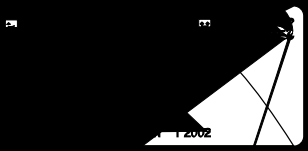
Note:

- MotionSensor recording starts if Camcorder is bumped or repositioned.
- This feature is not available during normal recording.
- While in MotionSensor stand-by, the following functions are not available: Record/Pause, Stand-by mode, Digital E.I.S., Video Effects (Auto/Digital Fade).

Before you begin...

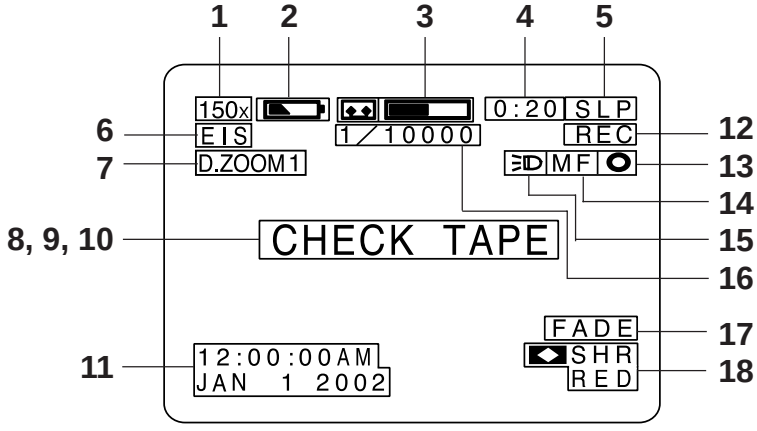
- Connect Camcorder to power source.





Viewfinder/LCD Monitor Indications

CAMERA/VCR mode



1 **Zoom Magnification level** (pages 23, 28).

2 **Battery Remaining** (page 31).
"WARNING LOW BATTERY" appears and Camcorder shuts off after 15 seconds.

3 **Tape Remaining** (page 31).

"" flashes and "TAPE END" appears for 5 seconds when:
- End of tape is reached.

"" flashes for 1 minute and "CHECK TAPE" appears for 5 seconds when:
- RECORD/PAUSE is pressed with no cassette, or cassette has no record tab in Camera (RECORD) mode.
- PLAY, FF or REW is pressed with no cassette inserted in VCR mode.

4 **10-Second Reminder**
Each time a recording is started, a 10 second incremental display (up to 59:50) lets you monitor how long one scene is recorded.

0:00 0:10 0:20 . . . . . 59:50
(return to 0:00 and continue)

5 **TAPE SPEED** (pages 11, 17).
(SP=standard play, SLP=super long play).

6 **Digital E.I.S.** (page 29).

7 **Digital Zoom** (page 28).

8 **VCR-MODE**
"VCR-MODE" appears for 1 minute when POWER is set to VCR or if RECORD/PAUSE is pressed in VCR mode.

9 **DEW**
If moisture condensation occurs in unit, "WARNING DEW DETECTED" appears, and Camcorder will shut off in 15 seconds. Wait until "WARNING" no longer indicates when Camcorder is turned on to use.

10 **MotionSensor** (page 30).

11 **Date and Time** (pages 14, 15).

12 **Operating Mode**
- **REC** (record)
- **FF** (fast forward)
- **REW** (rewind)
- **PAUSE**
- **PLAY**

13 **Backlight** (page 23).

14 **Manual Focus** (page 24).

15 **Light ON/OFF/AUTO** (page 16).

16 **High Speed Shutter** (page 25).

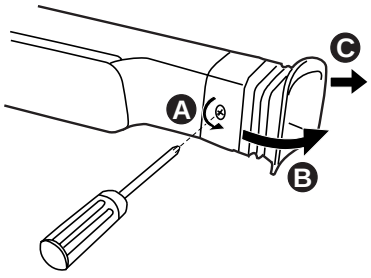
17 **Fade** (page 26).

18 **Color Digital Fade** (page 27).

For assistance, please call : 1-800-211-PANA(7262) or send e-mail to : consumerproducts@panasonic.com

Cleaning EVF (Electronic Viewer Finder)

To Remove



1 Ⓐ Remove the screw with a Phillips screwdriver.
Turn counterclockwise.
Ⓑ Turn the EVF Eyepiece.
Ⓒ Pull the EVF Eyepiece.

2 Remove any lint or dust particles with a soft clean cloth being careful not to scratch the glass surfaces.

3 Replace the EVF Eyepiece and the screw.

Notice

This product has a fluorescent lamp that contains a small amount of mercury. It also contains lead in some components. Disposal of these materials may be regulated in your community due to environmental considerations. For disposal or recycling information please contact your local authorities, or the Electronics Industries Alliance: <http://www.eiae.org.>

ATTENTION :

A nickel cadmium battery that is recyclable powers the product you have purchased. At the end of its useful life, under various state and local laws, it is illegal to dispose of this battery into your municipal waste stream. Please call 1-800-8-BATTERY for information on how to recycle this battery.

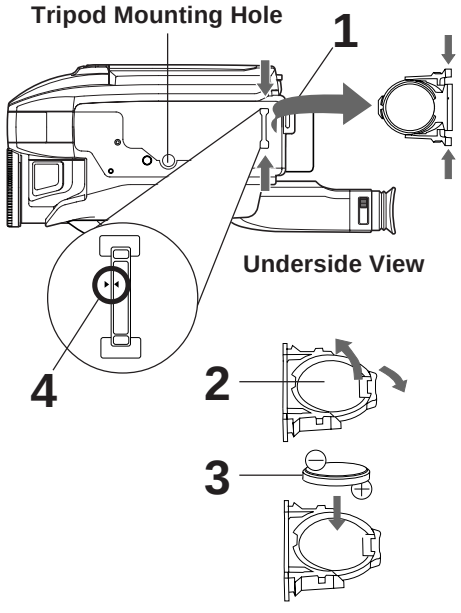
Replacing Clock Battery

The clock battery is pre-installed. Follow the steps below if replacement becomes necessary.

WARNING:

Replace battery with Panasonic PART NO. VSBW0004 (CR2025) only. Use of another battery may present a risk of fire or explosion.
Caution: Battery may explode if mistreated. Dispose of used battery promptly. Keep away from children. Do not recharge, disassemble or dispose of in fire.

Clock Battery



1 **While pinching the 2 tabs, pull Battery Tray out.**

2 **Bend middle tab out and remove Battery.**

3 **Snap new Battery** (⊕ mark down) into Battery Tray.
- Do not reverse the polarity.

4 **Insert Battery Tray** so the triangle marks meet.

Note:
- Keep Battery out of children's reach. Swallowing it may be harmful.
- Improper installation, discharge, or missing battery causes "CLOCK BATTERY" to appear when DISPLAY is pressed.
- Battery life is approximately 5 years.

Palm y System

ructions, see
andard batte
ecording using this Palmcorder.

y #	cription	Price
	aptor with ower Cable	Call For

Palmcorder Accessory Order Form

Please photocopy this form when placing an order.

1. Palmcorder Model # _____

2. Items Ordered

Accessory #	Description	Price Each	Quantity	Total Price
			Subtotal	
			Your State & Local Sales Tax	
			Shipping & Handling	6.95
			Total Enclosed	

3. Method of payment (check one)

☐ Check or Money Order enclosed (NO C.O.D.SHIPMENTS)

☐ VISA Credit Card # _____

☐ MasterCard Expiration Date _____

☐ Discover Customer Signature _____

Make Check or Money Order to: PANASONIC ACCESSORIES

(Please do not send cash)

4. Shipping information (UPS delivery requires complete street address)

Ship To:
Mr.
Mrs.
Ms. _____
First Last

_____
Street Address

_____ _____ _____
City State Zip

Phone #:
Day ( ) _____
Night ( ) _____

TO OBTAIN ANY OF OUR PALMCORDER ACCESSORIES YOU CAN DO ANY OF THE FOLLOWING:

VISIT YOUR LOCAL PANASONIC DEALER
OR
CALL PANASONIC'S ACCESSORY ORDER LINE AT 1-800-332-5368
[6 AM-5 PM M-F, 6 AM-10:30 AM SAT, PACIFIC TIME]
OR
MAIL THIS ORDER TO: PANASONIC SERVICES COMPANY ACCESSORY ORDER OFFICE
20421 84th Avenue South Kent, WA. 98032

Specifications

Power Source:	Compact VHS Camcorder: DC 6 V AC Adaptor: 110/120/220/240 V AC, 50/60 Hz Battery: Nickel-Cadmium Type DC 6 V
Power Consumption:	Compact VHS Camcorder: 6V DC 8.5 W (Max. 11.5 W) AC Adaptor: 19 W 1.2 W (when not in use.)
Video Signal:	EIA Standard (525 lines, 60 fields) NTSC color signal
Video Recording System:	2 rotary heads plus flying erase head Helical scanning system
Audio:	1 track
Pick-Up System:	Sequential color difference field reverse system
Pick-Up Device:	One integral color filter Charge Coupled Device (CCD)
Lens:	26:1 zoom lens, F1:1.6 with auto iris control Focal length: 3.8 mm - 98.8 mm 4 speed power zoom function
Viewfinder:	14 mm (0.55 inch) Liquid Crystal Color Electronic Viewfinder
LCD Monitor:	101.6 mm (4.0 inch) Liquid Crystal Display
Minimum Illumination Required:	0.8 lx (F1:1.6) 0.08 footcandles 7 lx (F1:1.6) 0.7 footcandles (EIA Standard)
Operating Temperature:	0 °C~40 °C (32 °F~104 °F)
Operating Humidity:	10 %~75 %
Weight:	Compact VHS Camcorder: 1.00 kg 2.20 lbs. AC Adaptor: 0.3 kg 0.66 lbs.
Dimensions:	Compact VHS Camcorder: 109.5 (W) × 122.5 (H) × 190.5 (D) mm 4-5/16 (W) × 4-13/16 (H) × 7-1/2 (D) inch AC Adaptor: 68 (W) × 41 (H) × 140 (D) mm 2-11/16 (W) × 1-5/8 (H) × 5-1/2 (D) inch

Weight and dimensions shown are approximate.

Designs and specifications are subject to change without notice.

Before Requesting Service

If a problem arises, you may be able to correct it yourself.
See Symptom and Correction list below.

Symptom	Correction
No picture in EVF or LCD monitor ...	• Connect Power Source. (pp. 9, 10) • Set POWER to VCR or CAMERA. (pp. 17, 20) • Check for Dew Indication. (p. 32) • Use fully charged Battery. (p. 9) • Firmly connect all needed cables. (p. 10)
Video cassette cannot be inserted ...	• Connect Power Source. (pp. 9, 10) • Insert cassette, window side facing out. (p. 11)
Video cassette cannot be removed ...	• Connect Power Source. (pp. 9, 10)
Operation buttons do not work ...	• Check for Dew Indication. (p. 32)
Recording cannot be done ...	• Make sure record tab is intact. (p. 11) • Check Battery Indicator. (p. 31) • Check for Dew Indication. (p. 32)
Auto Focus does not operate ...	• Set FOCUS to AUTO. (p. 24) • Set POWER to CAMERA. (p. 17)
Sound from microphone can't be monitored ...	• Set unit to REC or Record/Pause mode.
Camera picture is too dark ...	• Set HIGH SPEED SHUTTER to AUTO. (p. 25)
No playback picture, or the playback picture is noisy or contains streaks ...	• Press UP/DOWN button during playback (Tracking Control). (p.20)
"Panasonic ITS TAPES CAN PLAY IN YOUR VCR ..." appears in EVF or LCD Monitor ...	• Set POWER to CAMERA, then set SELF DEMO : OFF in MENU screen to cancel Demo mode. (p. 7)
Top of playback picture waves back and forth excessively ...	• A playback signal is not as stable as an off the air TV signal, so the top of your TV screen may appear bent or unstable during playback. This is called, "Horizontal AFC time constant change." To correct, slowly turn the TV horizontal hold control. If your TV does not have this control, or adjusting it does not help, contact your TV service center. (Some nominal service charges may be required.)

Video Head Cleaning

Clogged Video Head

While head cleaning is normally not needed, playing old or damaged tapes may clog the heads. When playback picture resembles example at the left, head cleaning is required.

Ideally, head cleaning should be performed by a qualified service technician. When this is not possible, purchase a head cleaning cassette. Be sure to follow cleaning cassette instructions exactly and only use when symptoms occur.

Request for Service Notice

Please photocopy this form when making a request for service notice.

Request for Service Notice:

In the unlikely event this product needs service.

- Please include your **proof of purchase**. (Failure to due so will delay your repair.)
- To further speed your repair please provide an explanation of what is wrong with the unit and any symptom it is exhibiting.

Mail this completed form and your Proof of Purchase along with your unit to:

Panasonic Services Company
1705 N. Randall Road
Elgin, IL. 60123-7847
Attn: Camcorder Repair

Limited Warranty

Panasonic Consumer Electronics Company,
Division of Matsushita Electric Corporation
of America, One Panasonic Way
Secaucus, New Jersey 07094

Panasonic Sales Company,
Division of Matsushita Electric of Puerto Rico, Inc.
AVE. 65 de Infantería, Km. 9.5 San Gabriel
Industrial Park, Carolina, Puerto Rico 00985

PANASONIC/QUASAR Video Products
Limited Warranty

Panasonic Consumer Electronics Company or Panasonic Sales Company (collectively referred to as "the Warrantor") will repair or replace this product with new or refurbished parts or equivalent product, free of charge, in the USA or Puerto Rico, in the event of a defect in materials or workmanship as follows (all time periods commence from the date of the original purchase):

PRODUCT	PARTS	LABOR	SERVICE	CONTACT NUMBER
CAMCORDER	ONE (1) YEAR, EXCEPT CCD IMAGE SENSOR CCD IMAGE SENSOR - SIX (6) MONTHS	NINETY (90) DAYS NINETY (90) DAYS	Carry-In or Mail-In	1-800-211-PANA(7262)
DVD/VCR DECK	ONE (1) YEAR	NINETY (90) DAYS	Carry-In or Mail-In	1-800-211-PANA(7262)
DIGITAL STILL CAMERA	ONE (1) YEAR, EXCEPT CCD IMAGE SENSOR CCD IMAGE SENSOR - SIX (6) MONTHS	NINETY (90) DAYS NINETY (90) DAYS	Carry-In or Mail-In	1-800-272-7033
A/V MIXER	ONE (1) YEAR	NINETY (90) DAYS	Carry-In or Mail-In	1-800-211-PANA(7262)
TV/VCR, TV/DVD TV/DVD/VCR COMBINATION	ONE (1) YEAR, EXCEPT CRT CRT - TWO (2) YEARS	NINETY (90) DAYS CRT - NINETY (90) DAYS	Carry-In: 21" CRT and Smaller In-Home or Carry-In: 22" CRT and Larger	1-800-211-PANA(7262)
TV/HDR COMBINATION	ONE (1) YEAR, EXCEPT CRT CRT - TWO (2) YEARS	NINETY (90) DAYS CRT - NINETY (90) DAYS	In-Home or Carry-In	1-888-843-9788

Batteries (if included) - New rechargeable batteries in exchange for defective rechargeable batteries for ten (10) days. Non-rechargeable batteries are not warranted.

Tape (if included) - New video cassette tape in exchange for a defective video cassette tape for five (5) days.

Memory cards (if included) - Exchange defective item for new one for ninety (90) days.

In-home, carry-in or mail-in service, as applicable, in the USA can be obtained during the warranty period by contacting a Panasonic Services Company (PASC) Factory Servicenter listed in the Servicenter Directory. Or call toll free contact number listed above, to locate an authorized PASC Servicenter. Carry-in or mail-in service in Puerto Rico can be obtained during the warranty period by calling the Panasonic Sales Company telephone number listed in the Servicenter Directory.

This warranty is extended only to the original purchaser. A purchase receipt or other proof of the date of the original purchase is requires before warranty service is rendered.

This warranty only covers failures due to defects in materials and workmanship, which occur during normal use and does not cover normal maintenance, including, but not limited to, video and audio head cleaning. The warranty does not cover damage which occurs in shipment, or failures which are caused by products not supplied by the warrantor, or failures which result from accident, misuse, abuse, neglect, mishandling, misapplication, alteration, modification, faulty installation, set-up adjustments, improper antenna, inadequate signal pickup, maladjustment of consumer controls, improper operation, power line surge, improper voltage supply, lightning damage, commercial use such as hotel, office, restaurant, or other business or rental use of the product, or service by anyone other than a PASC Factory Servicenter or a PASC authorized Servicenter, or damage that is attributable to acts of God.

LIMITS AND EXCLUSIONS

There are no express warranties except as listed above.

THE WARRANTOR SHALL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES (INCLUDING, WITHOUT LIMITATION, DAMAGE TO RECORDING MEDIA) RESULTING FROM THE USE OF THIS PRODUCTS, OR ARISING OUT OF ANY BREACH OF THE WARRANTY. ALL EXPRESS AND IMPLIED WARRANTIES, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSE, ARE LIMITED TO THE APPLICABLE WARRANTY PERIOD SET FORTH ABOVE.

Some states do not allow the exclusion or limitation of incidental or consequential damages, or limitations on how long an implied warranty lasts, so the above exclusions or limitations may not apply to you.

This warranty gives you specific legal rights and you may also have other rights, which vary, from state to state. If a problem with this product develops during or after the warranty period, you may contact your dealer or Servicenter. If the problem is not handled to your satisfaction, then write to the Consumer Affairs Department at the Panasonic Consumer Electronics Company address above.

SERVICE CALLS WHICH DO NOT INVOLVE DEFECTIVE MATERIALS OR WORKMANSHIP AS DETERMINED BY THE WARRANTOR, IN ITS SOLE DISCRETION, ARE NOT COVERED.

COSTS OF SUCH SERVICE CALLS ARE THE RESPONSIBILITY OF THE PURCHASER.

warvid 02/ 12/ 2001

Servicenter List

For Product Information, Operating Assistance, Literature Request, Dealer Locations, and all Customer Service inquiries please contact:
1-800-211-PANA (7262), Monday-Friday 9 am-9 pm; Saturday-Sunday 9 am-7 pm, EST.
or send e-mail to : consumerproducts@panasonic.com

Web Site: http://www.panasonic.com
You can purchase parts, accessories or locate your nearest servicenter by visiting our Web Site.

Accessory Purchases:

1-800-332-5368 (Customer Orders Only)
Panasonic Services Company 20421 84th Avenue South, Kent, WA 98032
(6 am to 5 pm Monday - Friday; 6 am to 10:30 am Saturday; PST)
(Visa, MasterCard, Discover Card, American Express, Check)

Factory Servicenters Locations

CALIFORNIA
6550 Katella Avenue
Cypress, CA 90630

800 Dubuque Avenue
S. San Francisco,
CA 94080

3878 Ruffin Road
Suite A
San Diego, CA 92123

FLORIDA
3700 North 29th Avenue
Suite 102
Hollywood, FL 33020

GEORGIA
8655 Roswell Road
Suite 100
Atlanta, GA 30350

ILLINOIS
1709 North Randall Road
Elgin, IL 60123

MASSACHUSETTS
60 Glacier Drive
Suite G
Westwood, MA 02090

MINNESOTA
7850-12th Avenue South
Airport Business Center
Bloomington, MN 55425

OHIO
2236 Waycross Road
Civic Center Plaza
Forest Park, OH 45240

PENNSYLVANIA
2221 Cabot Blvd. West
Suite B
Langhorne, PA 19047

TEXAS
13615 Welch Road
Suite 101
Farmers Branch,
TX 75244

WASHINGTON
20425-84th Avenue
South
Kent, WA 98032

HAWAII
99-859 Iwaiwa Street
Aiea, Hawaii 96701
Phone (808) 488-1996
Fax (808) 486-4369

Service in Puerto Rico

Matsushita Electric of Puerto Rico, Inc. Panasonic Sales Company/ Factory Servicenter:
Ave. 65 de Infantería. Km. 9.5, San Gabriel Industrial Park, Carolina, Puerto Rico 00985
Phone (787) 750-4300 Fax (787) 768-2910

As of Sep. 2001

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Panasonic Consumer Electronics Company,
Division of Matsushita Electric Corporation of America
One Panasonic Way Secaucus, New Jersey 07094

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Division of Matsushita Electric of Puerto Rico, Inc.
Ave. 65 de Infanteria, Km. 9.5 San Gabriel Industrial Park Carolina, Puerto Rico 00985

P

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